What is claimed is:

1. An apparatus for recording and/or reproducing information on and/or from an optical record disk comprising:

an optical head including a semiconductor laser for emitting a laser beam, an objective lens for projecting the laser beam emitted by the semiconductor laser onto the optical information record disk and a photodetecting means for receiving a return laser beam reflected by said optical information record disk to produce information signal and focusing error signal;

a disk driving means including an up-down block arranged movably in a direction perpendicular to a plane of the optical information record disk between a lower position and an upper position, an up-down motor for moving said up-down block between said lower position and upper position, a turntable for supporting the optical information record disk and a spindle motor secured to said up-down block and having a driving shaft coupled with said turntable for rotating the turntable together with the optical information record disk;

an optical head driving means for driving at least said objective lens in a radial direction of the optical information record disk;

a position detecting means for detecting directly a position of said up-down block to derive a position signal when the up-down block is driven into said upper position;

a rotation detecting means for detecting a rotation of said optical information record disk to derive a rotation signal when the optical information record disk is rotated at a predetermined revolving speed; and

a control means for initiating a focus control for moving said objective lens and turntable relative to each other in accordance with said position signal and rotation signal.

2. An apparatus according to claim 1, wherein said turntable of said driving means is formed by an upper surface of a spindle cup which is arranged on the driving shaft of said spindle motor such that the turntable is rotated together with the driving shaft of spindle motor but is slidable along the driving shaft, and said disk driving means comprises a turntable driving device for moving said turntable up and down along the driving shaft of the spindle motor.

3. An apparatus according to claim 2, wherein said turntable driving device of the disk driving means comprises an electromagnet secured to said spindle motor, a permanent magnet secured to said spindle cup such that the electromagnet and permanent magnet face with each other, and a spring arranged between said driving shaft and said spindle cup such that the spindle

cup is biased to move away from the optical information record disk.

4. An apparatus according to claim 2, wherein said optical information record disk is rotatably installed within a cartridge and said up-down block comprises at least three positioning projections which are urged against a lower surface of the cartridge when said up-down block is driven into said upper position to position the cartridge with respect to the driving shaft of the spindle motor.

5. An apparatus according to claim 1, wherein said position detecting means comprises a photoreflector which is secured to a base member on which said up-down block is arranged movably up and down and includes a light source for emitting a light beam and a photodetector, and a reflecting member secured to a lower surface of the up-down block at such a position that said light beam is made incident upon the reflecting member and is reflected by the reflecting member toward the photodetector of the photoreflector.

6. An apparatus according to claim 1, wherein said disk driving means comprises a rack secured to said up-down block and a pinion which is coupled with said up-down motor and is engaged with said rack.

7. An apparatus for recording and/or reproducing information on and/or from an optical record disk

comprising:

an optical head including a semiconductor laser for emitting a laser beam, an objective lens for projecting the laser beam emitted by the semiconductor laser onto the optical information record disk and a photodetecting means for receiving a return laser beam reflected by said optical information record disk to produce information signal and focusing error signal;

a disk driving means including an up-down block arranged movably in a direction perpendicular to a plane of the optical information record disk between a lower position and an upper position, an up-down motor for moving said up-down block between said lower position and upper position, a turntable for supporting the optical information record disk and a spindle motor secured to said up-down block and having a driving shaft coupled with said turntable for rotating the turntable together with the optical information record disk;

an optical head driving means for driving at least said objective lens in a radial direction of the optical information record disk;

a position detecting means for detecting directly a position of said up-down block to derive a position signal when the up-down block is driven into said upper position;

a control means for initiating an energization of said spindle motor for rotating the optical information record disk in accordance with said position signal.

8. An apparatus according to claim 7, wherein said turntable of said driving means is formed by an upper surface of a spindle cup which is arranged on the driving shaft of said spindle motor such that the turntable is rotated together with the driving shaft of spindle motor but is slidable along the driving shaft, and said disk driving means comprises a turntable driving device for moving said turntable up and down along the driving shaft of the spindle motor.

9. An apparatus according to claim 8, wherein said disk driving means comprises a rack secured to said up-down block and a pinion which is coupled with said up-down motor and is engaged with said rack.

10. An apparatus according to claim 8, wherein said disk driving means comprises a driving plate arranged on a base member slidably in a plane parallel with the optical information record disk between first and second positions and having at one end thereof an operating portion which is gradually ascended toward the optical information record disk, and a supporting plate on which the spindle motor is secured and which is arranged swingably about a shaft which extends in parallel with the optical information record disk between first and second positions; whereby when said driving plate is

driven into the first position, the supporting plate is driven into the first position at which said up-down block is driven into the lower position and when said driving plate is driven into the second position, said supporting plate is driven into the second position at which said up-down block is driven into the upper position.

11. An apparatus according to claim 10, wherein said position detecting means comprises a light source for emitting a light beam and secured to one of said base member and supporting plate, a photodetector for receiving the light beam emitted by said light source and secured to the other of said base member and supporting plate, and an opening formed in said driving plate at such a position that when said driving plate is in the second position, the light beam is made incident upon the photodetector via said opening.

12. An apparatus according to claim 10, wherein said position detecting means comprises a photoreflector secured to said up-down block and including a light source for emitting a light beam toward the optical information record disk or a cartridge having the optical information record disk installed therein, and a photodetector for receiving the light beam emitted by said light source and reflected by said optical information record disk or said cartridge.

13. An apparatus according to claim 8, wherein said disk driving means comprises a rotating cylinder arranged rotatably on a base member between first and second positions, a rack gear secured onto a side wall of the rotating cylinder, a warm gear engaged with said rack gear and coupled with a driving shaft of said up-down motor, a recess formed in the side wall of the rotating cylinder and being inclined with respect to an axial direction of the rotating cylinder, a pin secured to said up-down block and inserted into said recess such that when the rotating cylinder is rotated by said up-down motor by means of the warm gear and rack gear between said first and second positions, the up-down block is moved between said lower and upper positions.

14. An apparatus according to claim 13, wherein said position detecting means comprises a photointerruptor arranged on said base member and having a light source for emitting a light beam and a photodetector for receiving the light beam emitted by the light source, and a light shielding plate secured on the side wall of said rotating cylinder such that the light shielding plate is positioned between the light source and the photodetector; whereby when said rotating cylinder is not in said second position, the light shielding plate is existent between said light source and photodetector, but when said rotating cylinder is driven into said

second position, the light beam emitted by the light source is made incident upon the photodetector without being interrupted by said light shielding plate.